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Glucosamine better than common painkiller for knee arthritis

30/09/2005- Two long-awaited clinical trials on glucosamine have found the shellfish-derived substance to significantly reduce the pain of arthritic joints, and it may be better than a commonly used painkiller in Europe.

The results, posted in abstract form on the website of an upcoming conference, confirm what many osteoarthritis sufferers already know: US consumers spent \$800 million on the supplement during 2004, and in Japan retail sales reached \$200 million, according to Euromonitor.

Yet the findings will also lend scientific weight to earlier sometimes conflicting evidence on the efficacy of this natural supplement, both alone and in combination with chondroitin sulphate.

The first set of results come from the multi-centered Glucosamine/chondroitin Arthritis Intervention Trial (GAIT) conducted by the US government-funded National Institutes of Health.

Almost 1,500 osteoarthritis patients were given a daily dose of either 1,500 mg of glucosamine hydrochloride, 1,200 mg of chondroitin sulphate, a combination of both supplements, 200 mg of the common prescription painkiller celecoxib (Celebrex) or a placebo for 24 weeks.

The patients were evaluated at baseline and every four weeks thereafter.

Both celecoxib and the glucosamine-chondroitin combination significantly reduced knee pain compared to placebo.

"Combination glucosamine and chondroitin sulphate is effective in treating moderate to severe knee pain due to osteoarthritis," says the authors' abstract.

It adds that a lack of response in patients with mild pain may be due to a floor effect, limiting ability to detect response.

Daniel Clegg from the University of Utah will present the full study findings at the American College of Rheumatology (ACR) [meeting](#) in San Diego on 14 November.

The following day Dr Herrero-Beaumont from the Fundacion Jimenez Diaz in Madrid will disclose the results of a multi-centre European study, which has found glucosamine sulphate to be more effective than the over-the-counter painkiller acetaminophen on joint pain.

The Glucosamine Unum in Die Efficacy (GUIDE) trial compared a daily dose of 1500mg of glucosamine sulphate and 3000 mg of the OTC drug to a placebo in 318 patients.

After 24 weeks, the superior efficacy of the glucosamine supplement on various pain and mobility indices of osteoarthritis was evident.

Dr Herrero-Beaumont declined to comment further on the results to NutraIngredients.com ahead of the conference. However the abstract concludes: *"Glucosamine sulphate...might be the preferred symptomatic medication in knee osteoarthritis."*

In both trials there were no differences among groups in safety.

Andrew Shao, in charge of scientific affairs at the US-based trade association the Council for Responsible Nutrition, noted that each trial can be considered *"well-designed, well-conducted, gold-standard"*.

The glucosamine and chondroitin sulphate used in GAIT were required to meet pharmaceutical standards as it was conducted under an Investigational New Drug application.

Such high standards will be important if glucosamine makers are to attract new consumers that have been alerted to the risks of traditional treatments for arthritis by the makers of Cox-2

inhibitor drugs.

Indeed, the new findings on glucosamine and chondroitin sulphate will prove timely as the withdrawal of Cox-2 inhibitor drugs last year continues to prompt interest in natural substances to relieve joint pain.

At the same time, incidence of osteoarthritis is rapidly rising around the world due both to ageing populations and increasing levels of obesity.

Patricia Estepa, product manager at Bioiberica, the Spanish firm that supplied the chondroitin sulphate used in the GAIT trial, said: *"All the results are not included in the abstracts but as preliminary findings these are great, especially for our product."*

"I think the whole category will see growth following these studies, and particularly in the US. It is the first time that such a large trial has been done in this country - a big food supplement market - at this level," she added.

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